

Attorney Docket No. B45187C1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Cohen, *et al.*

Serial No.: 10/789,758

Group Art Unit No.: 1645

Filed: 27 February 2004

Examiner: N. Minnifield

For: Vaccine

Mail Stop: Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDMENT & RESPONSE UNDER 37 C.F.R. § 1.111**

Dear Sir:

In response to the Office Action mailed October 11, 2005, the Applicant respectfully requests entry into the record and consideration of this amendment and response. This response is timely filed with a Petition for a three-month Extension of Time and payment for the appropriate fee. Please charge any additional requisite fees relating to this amendment and response to Deposit Account No. 19-2570.

Please amend the above-identified application as follows:

**Amendments to the Specification** begin on page 2 of this paper.

**Amendments to the Claims** begin on page 4 of this paper.

**Remarks/Arguments** begin on page 6 of this paper.

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In the Specification:

Please replace the Title on page 1, line 1 with the following amended title:

MALARIA VACCINES

Please replace the paragraph beginning on page 6, line 10 with the following amended paragraph:

The preferred oligonucleotides preferably contain two or more CpG motifs separated by six or more nucleotides. The oligonucleotides of the present invention are typically deoxynucleotides. In a preferred embodiment of the internucleotide in the oligonucleotide in phosphorodithioate, or more preferably a phosphorodithioate bond, although phosphodiester and other internucleotide bonds are within the scope of the invention including oligonucleotides with mixed internucleotide linkages. The sequences preferably contain all phosphorodithioate modified internucleotide linkages. Preferred oligonucleotides have the following sequences:

Oligo (internal designation*)	5'-SEQUENCE-3'	CpG	Thio
WD1001	TCC ATG ACG TTC CTG ACG TT [SEQ ID NO:1]	+	+
WD1002	TCT CCC AGC CTG CGC CAT [SEQ ID NO:2]	+	+
WD1003	ACC GAT AAC GTT GCC GGT GAC G [SEQ ID NO:3]	+	-
WD1004	G*G*G* GTC AAC GTT GAG*G*G*G*G [SEQ ID NO:4]	+	Mix
WD1005	TCC ATG AGC TTC CTG AGC TT [SEQ ID NO:5]	-	+
WD1006	TCC ATC ACG TTC CTG ACG TT [SEQ ID NO:6]	+	-
WD1007	ACC GAT GAC CTC GCC GGT GAC GGC ACC ACG TCG TCG TTT TGT CGT TTT GTC GTT [SEQ ID NO:7]	+	+

\*alternatively referred to as WD001-WD007

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Please replace the paragraph on page 7, line 18, with the following amended paragraph:

The amount of protein in each vaccine ~~[[does]]~~dose is selected as an amount which induces an immunoprotective response without significant, adverse side effects in typical vaccine~~[[e]]~~s. Such amount will vary depending upon which specific immunogen is employed and how it is presented. Generally, it is expected that each dose will comprise 1-1000 µg of protein, preferably 2-100 µg, most preferably 5-50 µg. An optimal amount of a particular vaccine can be ascertained by standard studies involving observation of appropriate immune responses in subjects. Following an initial vaccination, subjects may receive one or several booster immunisations adequately spaced.